# 5043 Advanced Machine Learning - HW 3

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# 1 Figures

## 1.1 Figure 1

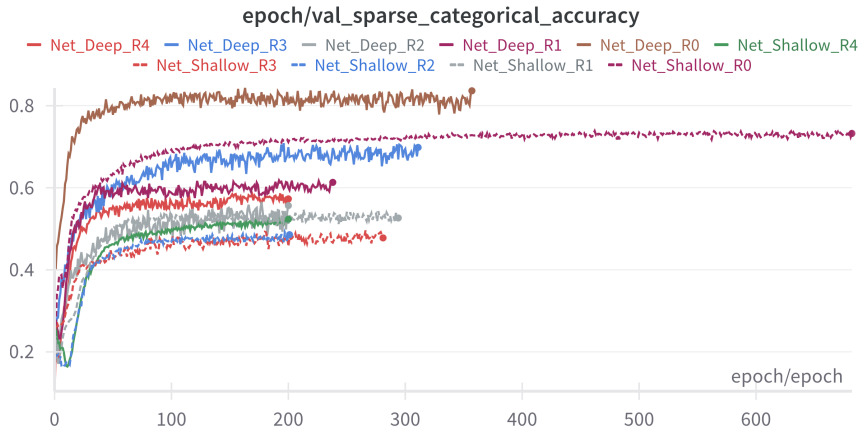


*Fig. 1:* Validation Accuracy as a function of epoch for the Shallow and Deep models

## 1.2 Figure 2

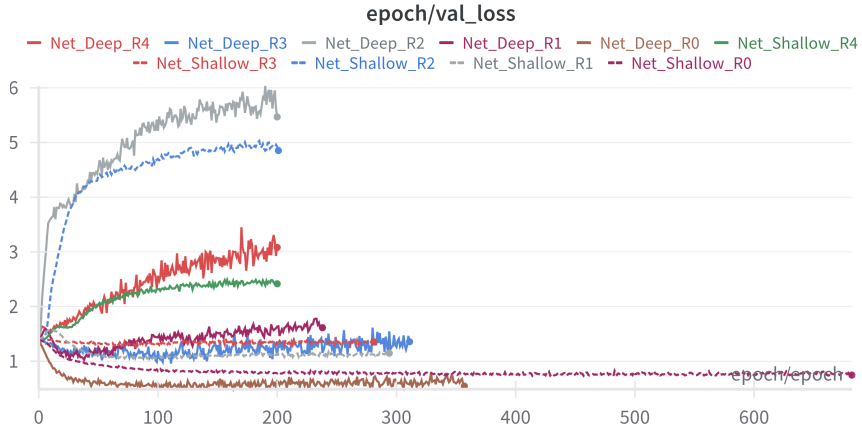


*Fig. 2:* Validation Loss as a function of epoch for the Shallow and Deep models

## 1.3 Figure 3


*Fig. 3:* Testing Sample Data Probability Distribution for the Shallow and Deep models

## 1.4 Figure 4a

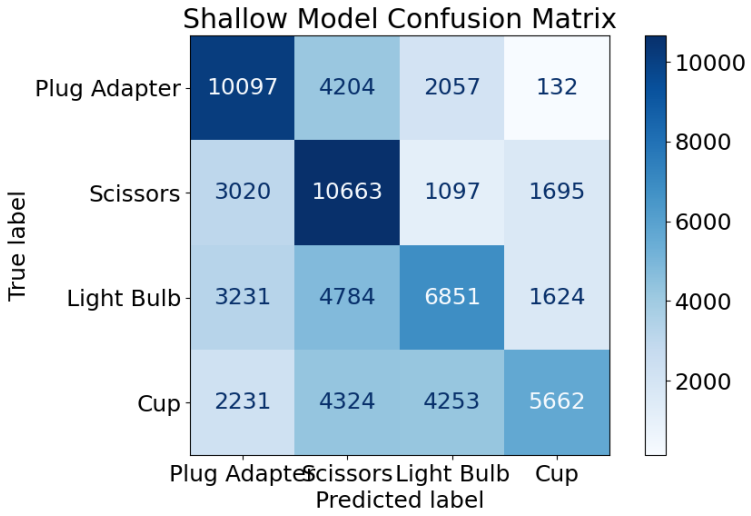


*Fig. 4:* Confusion Matrix of the test set data across all rotations for the Shallow model

## 1.5 Figure 4b

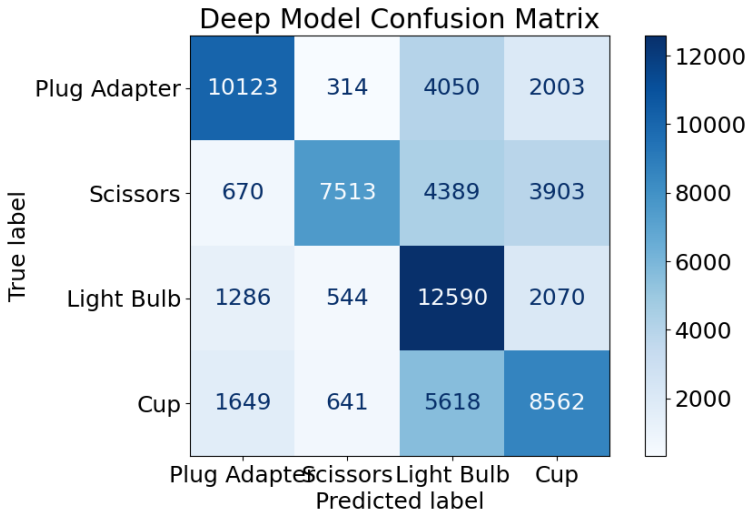


*Fig. 5:* Confusion Matrix of the test set data across all rotations for the Deep model

### 1.6 Figure 5

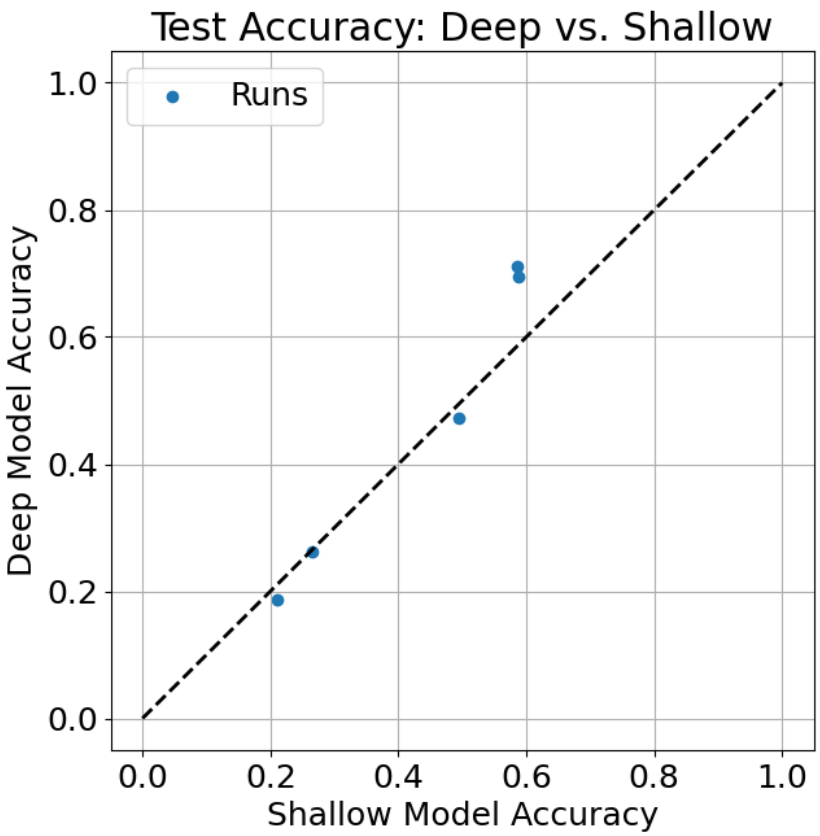


*Fig. 6:* Test set accuracy for the deep vs shallow networks

## 2 Analysis & Discussion

*"How many parameters were needed by your shallow and deep networks?"*

*"What can you conclude from the validation accuracy learning curves for each of the shallow and deep networks? How confident are you that you have created models that you can trust?"*

*"Did your shallow or deep network perform better with respect to the test set? (no need for a statistical argument here)."*

*"Describe the errors that your shallow and deep networks tend to make."*

*"Is there consistency in the performance in the five runs that you have made for your deep network? Discuss the evidence."*